

CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA, CALIFORNIA

Tyler

DIVISION OF BIOLOGY

October 7, 1959

Dr. Joshua Lederberg
Stanford University Medical School
Stanford, California

Dear Josh:

I had been intending to write you since reading your article in Science last June. For one thing I thought you might be interested in reading about our experiments with lobster serum. For this purpose I am sending you reprints of three papers on natural hetero-agglutinins in serums of lobsters and other animals. This doesn't mean that I am wholeheartedly for the idea that organisms normally make all conceivable kinds of antibodies. However I do admit that it has many attractive features.

Dr. David Bishop and I have recently written a chapter on immunological phenomena for a book that is to be called Physiological Mechanisms concerned with Conception. In this chapter we give a brief account of the mechanism of antibody formation along with some general immunological considerations. I am taking the liberty of sending you a copy of this chapter and hope that you may get a chance to glance over particularly the section that deals with your ^{view}~~idea~~. I should be glad to have any comments you might make on this or any of the other topics discussed in that section.

One question that I had in mind to ask you was what you meant by a mature cell. Evidently you consider the mature antibody-forming cells to be still capable of, and in process of, division. This is not the way in which we ordinarily regard a mature, differentiated, cell. I wonder then what you might have in mind as a criterion for maturity, *other than the postulated "progression of the cell from sensitivity towards reactivity"*.

Another question concerns the need for assuming that a single diploid cell should be capable of, at most, two potentialities for antibody formation. If one considers the situation with respect to antigens then it is clear that a single cell, such as a red blood cell, can possess a large number of different antigens determined by several independent pairs of genes.

Dr. Joshua Lederberg

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Another question is how you would fit auto-immunization into your picture.

With best regards,

Sincerely,

A handwritten signature in dark ink, appearing to read 'A. Tyler', with a stylized, cursive script.

A. Tyler

AT:jd